MERCURY

Welding Designing and Applying & Testing The Metal Properties

12 - 16 Aug 2024
Madrid (Spain)

Istanbul - Turkey: +90 539 599 12 06
Amman - Jordan: +962 785 666 966
London - UK: +44 748 136 28 02

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Welding Designing and Applying & Testing The Metal Properties

Ref.: 15299_303771 **Date:** 12 - 16 Aug 2024 **Location:** Madrid (Spain) **Fees:** 5500 **Euro**

Introduction:

This course is an extensive, in-depth course on welding, metallurgy, and corrosion aspects of various materials used in Offshore Oil and gas Industries and is targeted to develop the skills in handling these underlined issues. This course discusses in great detail, various alloys, their metallurgical properties, design requirements as per the construction codes, welding practices, damage mechanisms, and mitigation in offshore oil and gas production environments. It narrates materials selection criteria, welding problems, corrosion requirements, and the best ways to achieve the best results under the most demanding offshore oil and gas production environments

Targeted Groups:

- Welding Personnel
- Metallurgy Personnel
- Inspection Personnel
- Equipment Engineers
- Maintenance Engineers and Planners
- Design Engineers
- Service Company Representatives

Course Objectives:

At the end of this course the participants will be able to:

- Understand the Welding processes and their types and associated welding engineering challenges.
- Learn about the Welding repair methods.
- Design Welding and stress checks.
- Apply the Metal properties and destructive testing.

Targeted Competencies:

- Welding processes and their types
- Welding repair methods
- Welding design and stress checks
- Metal properties and destructive testing
- inspection methods for welding

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Course Content:

Unit 1: Welding processes and their types:

- Welding symbols
- Flux-Cored Arc Welding FCAW
- Stick - Shielded-Metal Arc Welding SMAW
- MIG - Gas Metal Arc Welding GMAW
- Laser Beam Welding
- Electron-Beam Welding
- Plasma Arc Welding
- Atomic Hydrogen Welding
- Welding indications and their types?
- How to read the Welding procedure?

Unit 2: Welding repair methods:

- Cutting and removal of the failed component
- Preparation of the new joint/part
- Welding and cleanup
- Welding inspection types

Unit 3: Welding design and stress checks:

- Weld joint design geometry
- Dimensioning and preparation that takes into account the welding process to be used
- Tolerances on Size of welds
- Mechanized and robotic fabrication
- Welding design particular attention to setting realistic joint tolerances
- Sheet metal parts

Unit 4: Metal properties and destructive testing:

- Tensile test
- Corrosion test
- Aggressive environment testing
- Corrosion testing
- Fracture and mechanical testing
- Yield Strength

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- Tensile Strength
- Elongation
- Reduction of Area

Unit 5: inspection methods for welding:

- Visual
- Radiographic or X-ray
- Ultrasonic
- Magnetic Particle
- Liquid Penetrant

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Registration form on the :
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Complete & Mail or fax to Mercury Training Center at the address given below

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Person Responsible for Training and Development

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